



Unlock the power of quality data

4 high-impact strategies for fleet managers

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CHAPTER 01

Navigating data overload

Fleet managers everywhere [need help coping with data overload](#).

The average connected vehicle generates over 25 gigabytes of data every hour.

While these massive waves of data can transform your business for the better, simply having all that data isn't enough. You need precision and accuracy to help you move in the right direction.

It can mean the difference between insights you can trust and insights that aren't based on reality.

Inside, you'll learn about **four areas of business** where you can use data to strengthen your operations – and where you can avoid the pitfalls of poor-quality data. You'll also learn how specific technologies are helping fleet managers everywhere make better decisions every day.

"The data driven nature of the trucking industry means numbers are flying in from every direction."

- [Heavy Duty Trucking \(HDT\) Fact Book 2022](#)

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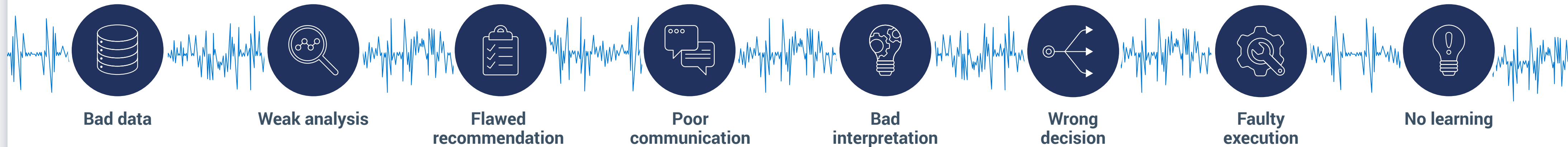
CHAPTER 02

Focus on signals, not noise

Before we get into the four areas of business, let's start with data quality.

Insights are like signals for your fleet that can power your entire decision-making process. But [the underlying data](#) upon which the signals are built, must be precise. Otherwise, the process breaks down.

As you can see from Forbes' diagram below, bad data affects every link in the decision-making process.



Data source: [Forbes](#)

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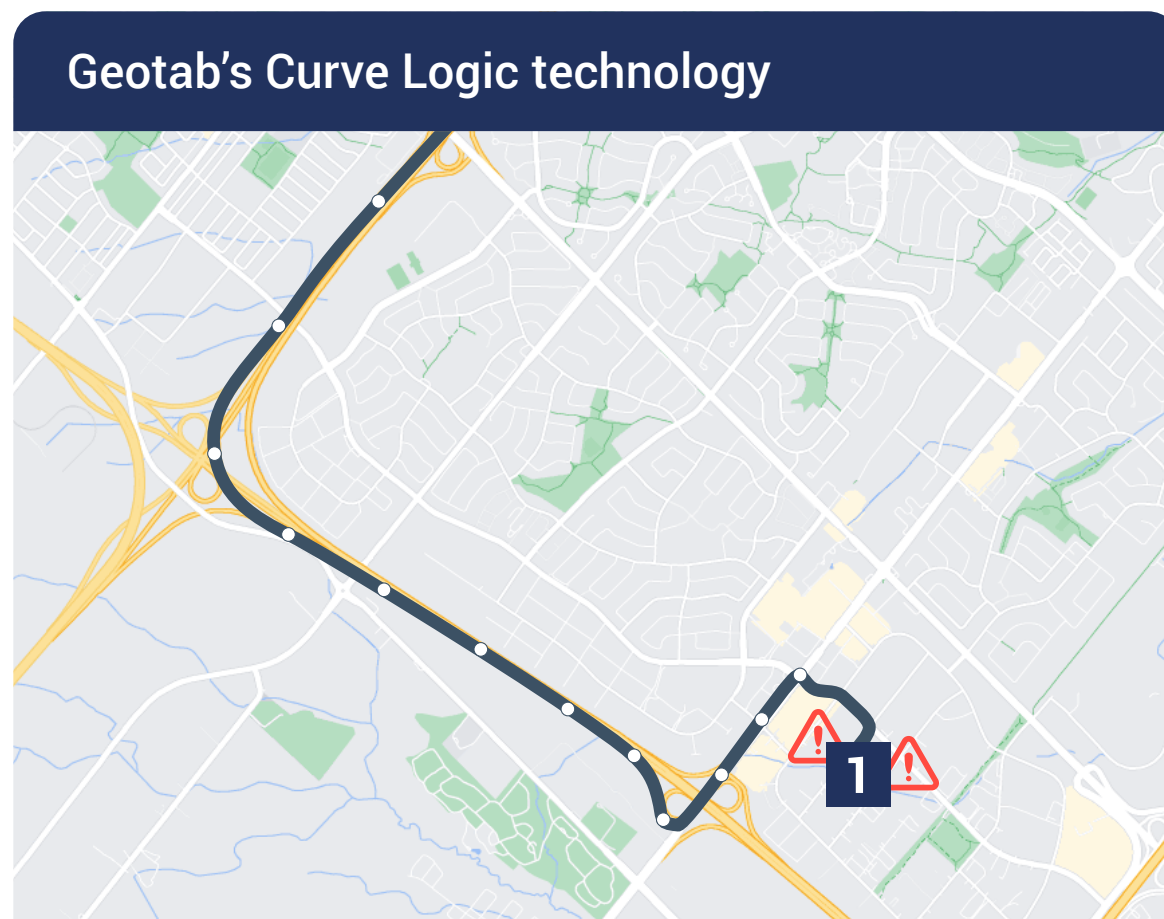
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Indicators of data quality

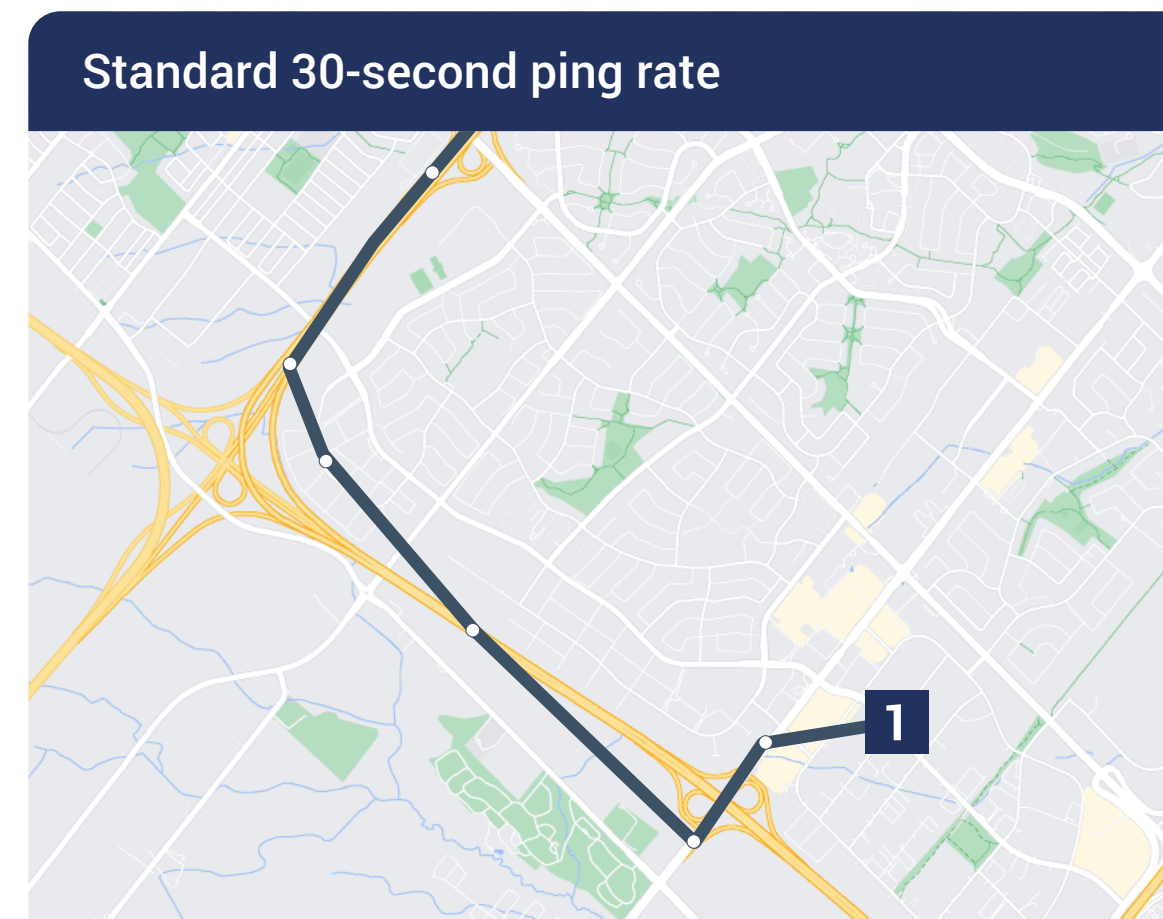
If your ping rates are between two and five minutes, you'll miss data from harsh braking and speeding events, and even collisions — all information you need to help you run a more efficient and safe fleet.

What's Curve Logic?

It's our [patented technology](#). It's Geotab's method of GPS logging designed to help you gather data with unprecedented accuracy and precision.



Notice the detail and accuracy in the data you collect with Curve Logic.



With standard ping rates, you'll miss valuable data, like harsh cornering, speeding and other events.

As you can see, Curve Logic gives you unprecedented detail so you have more visibility into your fleet.



The data collection effect

Higher frequency ping rates, like those under 30 seconds, and Curve Logic technology mean more reliable data to help you:

- Make more informed decisions
- Reduce operational costs
- Accurately track your fleet
- Boost efficiency

Higher data reliability and quality means more accurate and helpful insights.

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Let's explore how data can strengthen different areas of your business



Risk management

- Second-by-second data for collision reconstruction
- Collect GPS, speed and engine data information
- Monitor tire pressure



Fleet optimization

- Data on fuel usage, oil life and more
- Active diagnostic faults, ignition status and more
- Engine and odometer data for better maintenance planning



Productivity

- Instantly find optimal routes
- Compare and monitor planned routes for your fleet and identify any delays within seconds
- Uncover trends in detention time with GPS tracking



Safety

- Analyze safety components in your vehicles, like airbags and seatbelts
- Collect data from collisions to determine driver behaviors



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Risk management

Let's start with nuclear verdicts, which is when [court decisions award verdicts out of proportion to the damages incurred](#). They're a growing concern for the transportation industry.

In fact, average verdicts have more than tripled, from [\\$64 million in 2015 to \\$214 million in 2019](#) – a contributing factor to some of the [largest trucking bankruptcies over the last 20 years](#).

In 2020, there were [4,965 deaths in collisions involving large trucks](#), with 71% of those deaths being occupants of other vehicles – both tragic and a serious vulnerability for fleets.

Collision reconstruction technology is helping companies manage and mitigate these types of risks.



DID YOU KNOW?

With Geotab, you get a complete picture of a collision. Second-by-second data of the event – before, during and after – helps you minimize risk and increase fleet safety.

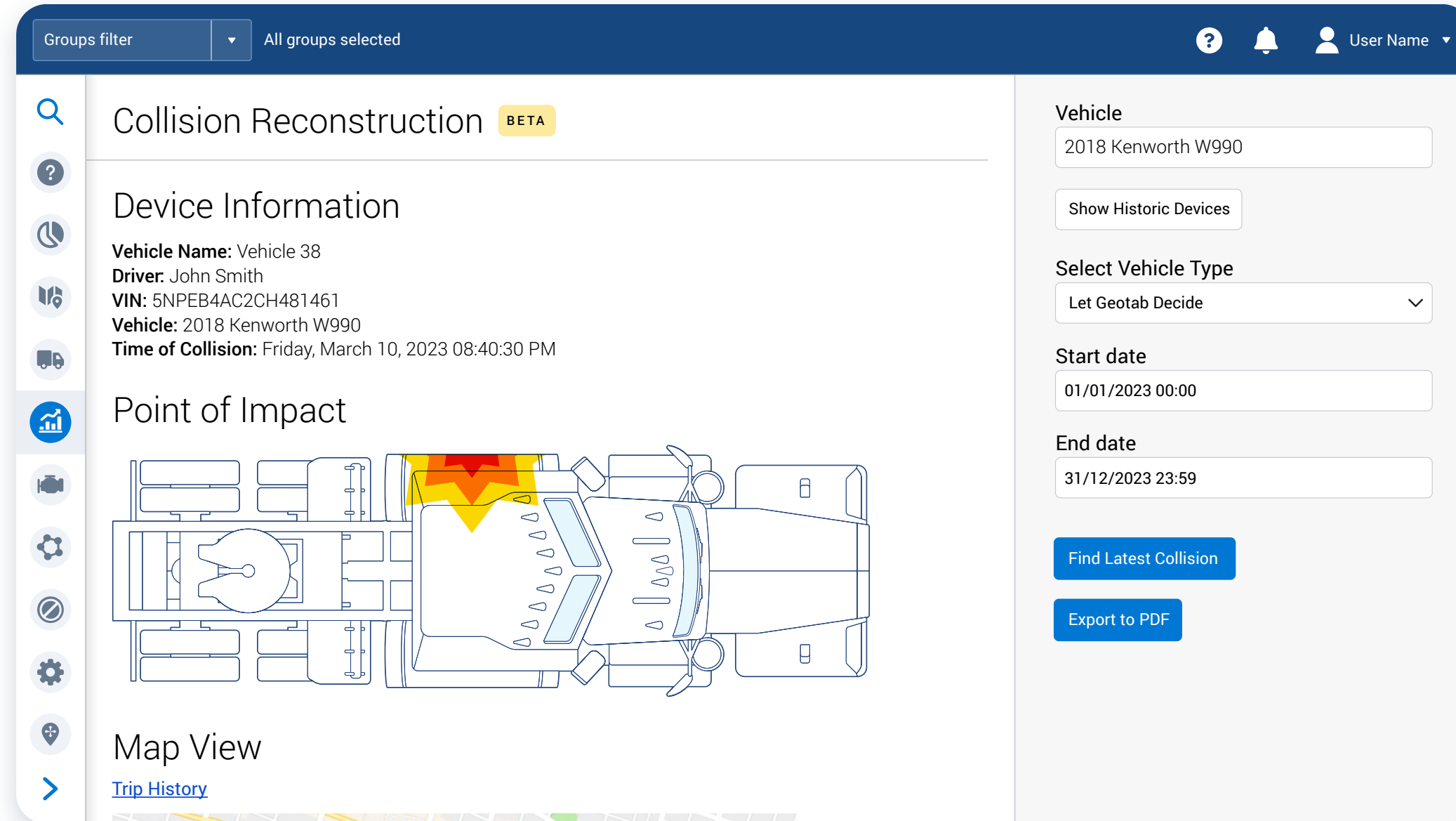
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Collision reconstruction is used to analyze collisions with data captured before, during and after an incident and can support risk management as part of any safety program to help:

- Identify at-fault drivers and potentially avoid costly nuclear verdicts
- Reduce the risk of increased insurance premiums
- Analyze safety components in your vehicles, like airbags and seatbelts
- Identify your driver's behavior during the incident



New solutions integrate dash-cam video footage for movie-like reconstructions that show location, speed, impact and more – all within seconds of a collision, helping fleets reduce exposure and cost. Learn more about the [Xtract solution](#).

Four indicators of an effective collision reconstruction solution

During a collision, it's the small details and seconds that provide fleet managers with clues and insights about what went wrong.

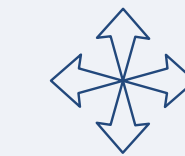
A quality collision reconstruction solution should do four things:



Gather second-by-second data for a more full view of an incident.



Collect robust information, like GPS, speed and engine data for holistic visibility.



Pull data directly from your telematics device to help prevent tampering.



Create a visual, map-based reconstruction with location, direction and information about how the vehicles interacted. You can also get other relevant information, like weather.

Collisions are costly and dangerous, but they can happen. If they do, a collision reconstruction solution can protect your company.

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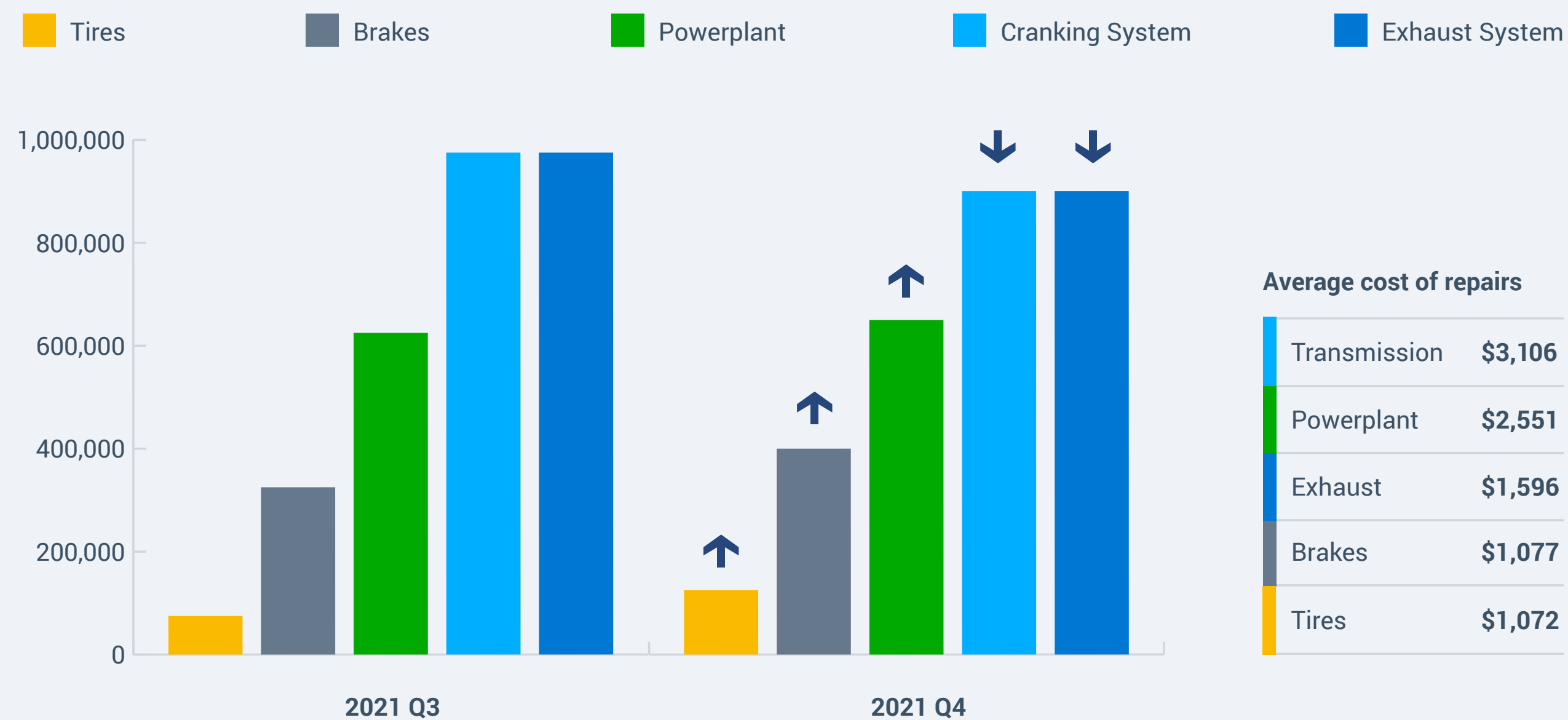
Fleet optimization

Today, supply chain issues are ubiquitous, and [these issues are expected to continue](#). To combat this volatility, [74% of business leaders plan to adopt new technology](#), like predictive maintenance.

Predictive maintenance

[20% of fleet vehicles](#) have unplanned downtime throughout the year. And with maintenance costs rising 20.4% from 2020 to 2022, all that downtime is costing organizations money.

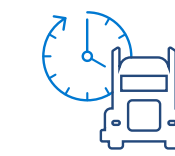
Most frequently repaired systems by miles between repairs



Transmission	\$3,106
Powerplant	\$2,551
Exhaust	\$1,596
Brakes	\$1,077
Tires	\$1,072

Data source: [2022 HDT Trucking Fact Book](#)

Predictive maintenance uses data from vehicle sensors to alert fleet managers of potential mechanical failures. It also helps:



Increase business continuity

With corrective action, you can reduce emergency repairs, keep fleets running efficiently and help prevent delayed shipments.



Reduce costs

As the average age of trucks on the road [continues to climb](#), you can identify trends in maintenance needs and address issues before they become more expensive and time consuming.



Optimize resources

Order parts ahead of time to reduce or eliminate unexpected downtime. You can also plan your routes more accurately and get the right vehicles on the job.

Fleet managers need solutions to stay ahead of upcoming shortages and keep their vehicles on the road as long as it's safe to do so. Predictive maintenance can do that, especially with aggregated data.

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The power of aggregated data

Your telematics provider should use [large amounts of anonymized, aggregated data](#) – like accelerometer, GPS and engine data – to help you not only learn what leads to a breakdown, but give you preventative maintenance alerts.



MAINTENANCE SCENARIO

You can benchmark different makes and models for context of vehicle use. One model might suffer from coolant leaks after 100,000 miles as a hub-and-spoke vehicle. Further analysis may reveal that big city driving in stop-and-go traffic is the cause of that issue.

A solution built around a solid machine-learning model helps predict breakdowns before they happen, saving you money and frustration.

Next, we'll look at how data can support overall productivity.

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Productivity

The “Amazon” Effect is a term that refers to the dramatic increase in customer expectations as a result of the tech giant’s same-day shipping and 30-day return policies.

Accordingly, companies are looking for ways to quickly [adapt to changing customer trends](#), especially since the pandemic. One focus has been to make processes [more efficient with telematics](#) to address some of the hurdles that stand in the way of a more profitable operation.

Detention time and charges

Detention time is one such hurdle that’s a [top concern for transportation companies](#). It can have a snowball effect on daily routes and Hours of Service (HOS) limits.

In fact, an extra 15-minute delay at a customer’s facility can [increase collision rates by 6.2 percent](#) costing up to [\\$1,534 per driver per year](#).

[53% of drivers lose one to two loads per week](#) from delays, leading to reduced customer satisfaction, late deliveries and additional detention charges — all cutting into profitability.

So what solutions can help reduce — or eliminate — detention charges and detention time?



DID YOU KNOW?

With Intelligent Zoning from Geotab, you can identify zones where trucks are always stopping. You also get suggestions for new zones to save time and improve efficiency.

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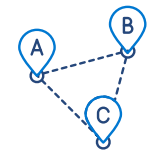
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Data-driven solutions



Route optimization

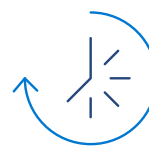
Customer changes in delivery times can cause late deliveries and hours of manual rescheduling. Automate the process to instantly find optimal routes and keep business moving forward.

- Reduce detention time and charges
- Increase fleet efficiency
- Decrease miles driven
- Eliminate time spent on route building



GPS tracking

Uncover trends in detention time with accurate GPS tracking. Drill down for patterns in delays with specific routes, drivers or customers. Get more specific visibility into your operations to improve efficiency.



ETA and routing alerts

Customers want their facilities ready for shipping and receiving ahead of time. Routing systems can compare and monitor planned routes for your fleet and identify any delays within seconds, giving fleet managers the chance to communicate with customers immediately.



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How data quality can affect detention time

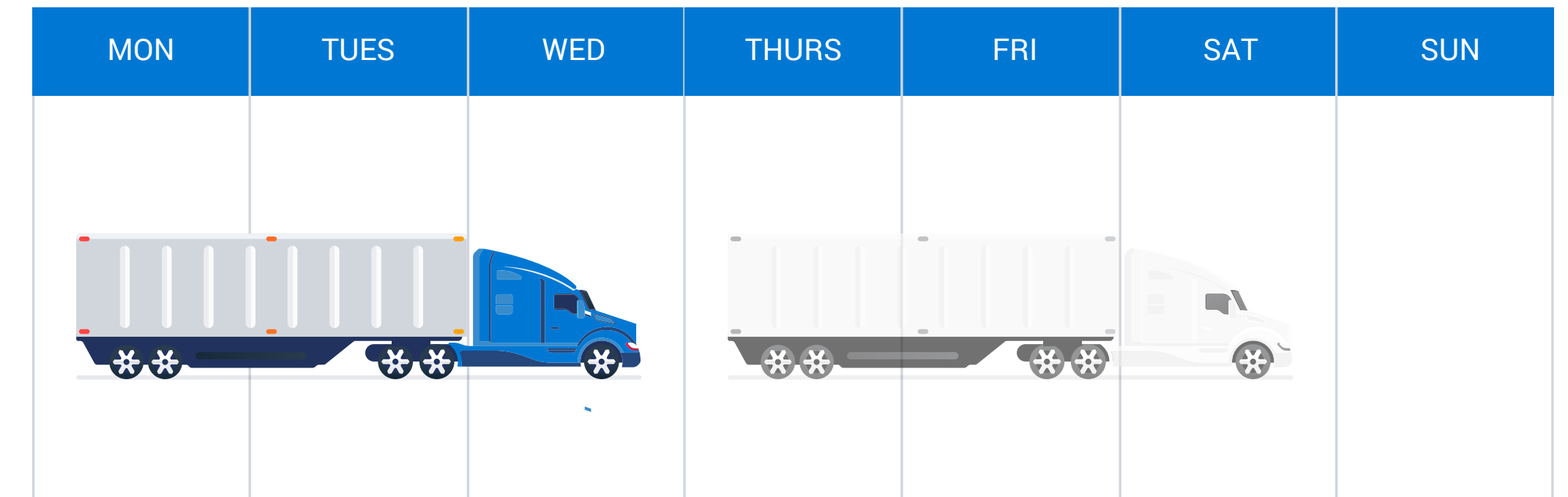
Proving detention delays with legacy systems can be challenging. Ping rates of 15 to 30 minutes or more result in unclear arrival and departure times, leading to potential disagreements and lost revenue.

Precise, accurate data – and higher transfer frequency – help with customer negotiations around billing, pricing and hourly surcharges.

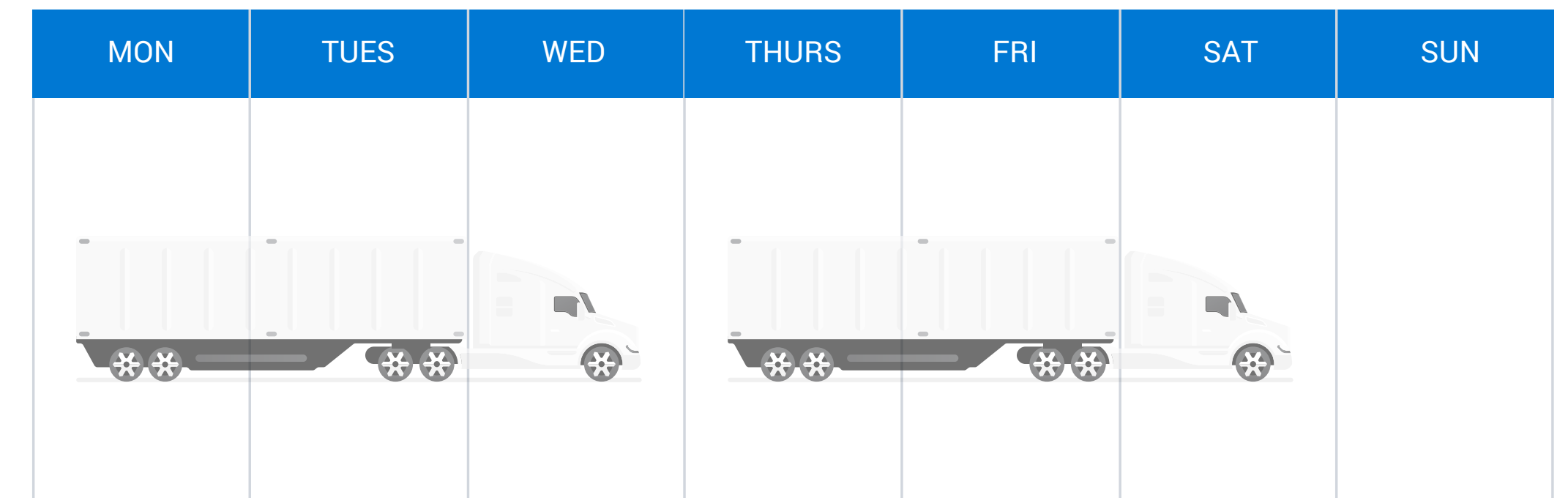
The right telematics solution helps you see where and when a trailer stops, how long it stays there and whether it's loaded or empty.



Detention time and lost loads



Losing one load per week due to unaccounted for detention time, at an average of \$1,800 per trip, could cost \$7,800 per month, or \$93,000 per year.



Losing two loads per week, at an average of \$1,800 per trip, could cost \$15,600 per month, or \$187,200 per year.

Data source: [2020 Detention Time Survey, Owner-operator Independent Drivers Association Foundation](#)

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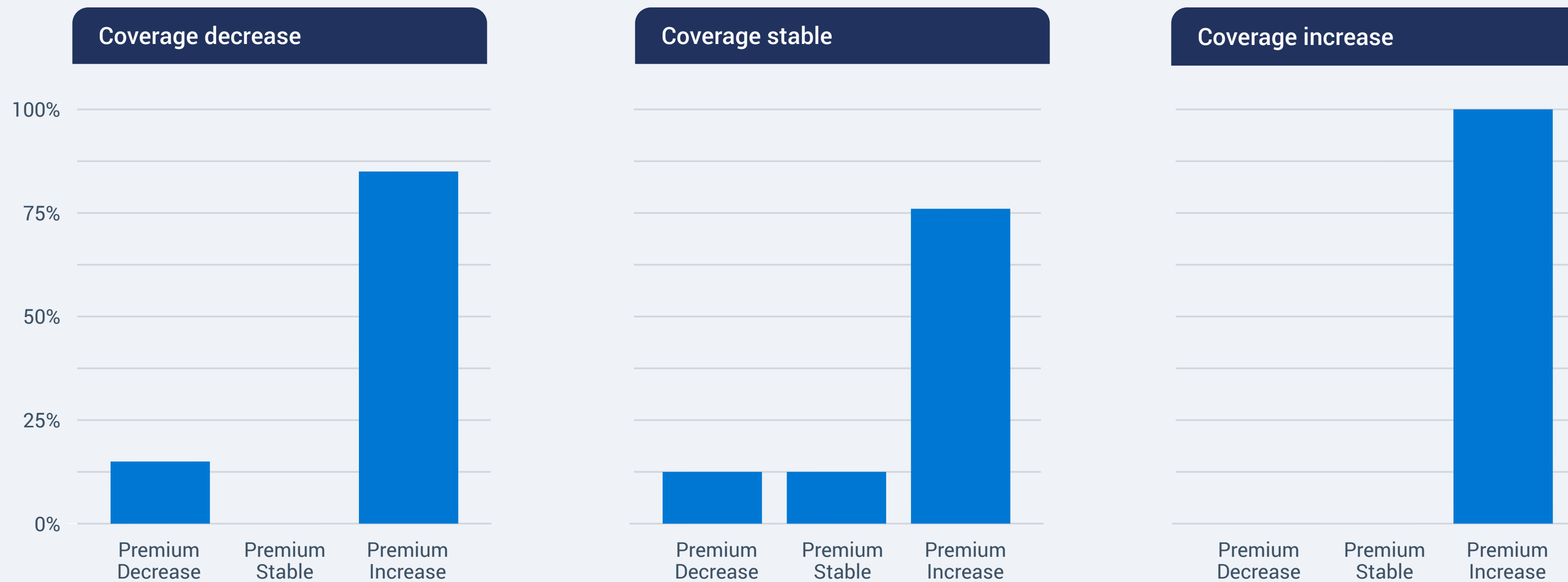
Safety

Insurance is playing an evolving role in the trucking industry and [premiums per mile have increased by 47% over the last 10 years](#).

As a result, companies need to either increase their rates to cover the rising costs or absorb the expense, reducing profitability.

One strategy is to [reduce coverage to reduce premiums](#). However, even with reduced coverage, most premiums still go up. And with less coverage, you're leaving your company open and more vulnerable when collisions happen.

Impact of excess coverage level changes on premiums



Data source: [The Impact of Rising Insurance Costs on the Trucking Industry, February 2022, ATRI](#)

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Collision detection technology

You can analyze data from collisions that happen across your fleet to determine driver behaviors, or even specific routes, where patterns emerge. This data can be used to better train all your new and existing drivers more effectively.

As a fleet manager, you can also review [critical data points](#) and take action to reduce exposure and mitigate risks – lowering premiums and costs.



DID YOU KNOW?

Geotab's Collision Detection tool gives you a collision score. With data like unusually high acceleration, you get a score that tells you the likelihood of a collision. That means immediate awareness to take action.

Data granularity and quality matter.

- Insurance providers can more accurately assess and identify fraudulent claims – [especially ones against tractor-trailers](#).
- Fleet managers have more visibility into the driver behaviors that cause collisions, like speeding, harsh braking and harsh cornering.
- Data can be more robust, with details like point-of-impact, magnitude and trigger type to give managers more context and information.

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Safety reports and deeper analysis

Advanced reporting with some telematics solutions offers driver behavior trends like [scorecard reports](#). When combined with data from vehicle sensors, fleet managers get deeper insights to improve overall safety.



DID YOU KNOW?

Geotab has U-Turn Detection. Identify vehicles in your fleet that make U-turns to promote and encourage fleet safety.

Better driver behavior and monitoring

You can build a safety-first culture with visibility into behaviors like harsh braking, rapid acceleration and harsh cornering.

With better understanding of the efficacy of your safety program, you can make adjustments or build on successful areas of your initiative.

Focus on signals, not noise

As a fleet manager, focusing more on signals – the trends and insights captured from analysis – rather than poor-quality data, can impact your entire operation and help you grow your fleet.



Many fleets struggle with the challenges of managing telematics data, driver training and fleet management.

Predictive Coach helps mitigate risk and improve safety by automatically assigning individualized behavior-based driver training based on information pulled from your telematics device, reducing the day-to-day workload for fleet managers.

For more information visit the [Predictive Coach Marketplace page](#).

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CHAPTER 03

The power of aggregated data

Aggregated data is like an ocean of ones and zeros. Ideally, fleet managers want to combine both quality and quantity. With the right telematics solution, large amounts of high-quality data can create a seismic shift in your operations.



Whether you operate a fleet of 5 or 5,000, you get access to aggregated data insights developed over time by over 3.5+ million connected vehicles in the Geotab ecosystem.

Identify trends, anomalies and insights to help you improve operations, increase safety and maximize efficiency.



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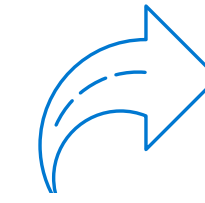
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Aggregated data can support fleets with:



Road safety trends

Monitor vehicles in real time with GPS tracking and detect reckless driving, acceleration, speed patterns and road conditions to make better-informed decisions once a collision happens. Identify issues or recurring trends, take preventative measures and use that data to avoid safety risks.



Truck maintenance

Tracking engine data helps you identify problems before they become major issues. You can build maintenance schedules and keep vehicles in good health. Plus, identify efficient routes to reduce wear and tear.



Benchmarking

Collect and analyze data from multiple sources to get an accurate picture of performance. Compare and contrast with fleets of a similar size and makeup to identify opportunities for improvement.



DID YOU KNOW?

With Geotab, you can benchmark your fleet's performance with aggregated data. Improve utilization, safety, fuel consumption and more.

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CHAPTER 04

Supercharge fleet management with data

Big data is transforming fleet management. It's helping managers and executives [unlock efficiency and profitability](#) across their operations in areas like risk management, optimization, efficiency and safety.



- **Collision reconstruction** is helping to lower insurance premiums.
- **Predictive maintenance** tools are keeping vehicles healthy and making them last longer.
- **Routing and tracking** tools are helping reduce detention time and related charges.
- **Collision detection** and safety reporting are providing a more accurate view of day-to-day operations.

Quality drives insight accuracy and precision, especially in the long term. It can help you find signals of insight to make better decisions every day.

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CHAPTER 05

The gold standard in telematics

Data quality is one of the many reasons Geotab has been ranked the [#1 telematics provider in the world](#) for the third time. With the highest number of connected vehicles, we're able to offer voluminous, rich data sets for deeper, more contextual insights.

Bolster efficiency and strengthen your whole operation today with Geotab.



Curve logic technology

A more accurate and precise way to capture vehicle data that goes beyond ping rates for a full view of where and how each vehicle is moving.



55 billion data points per day

Our powerful analytics engine helps you pull meaningful insights that can drive your business forward.



3.5+ million connected devices

Benchmark performance against other fleets like yours. Create targets and objectives, and accurately track your progress.



You own your data

We don't own your data and we never will. It's always yours to work with however you see fit.



Over 280 solutions in Marketplace

Get control and flexibility with an open solution. Find what works best for your fleet and optimize with choice.

Geotab is about freedom, flexibility and control for fleet managers. As an open platform, you have access to hundreds of solutions to supercharge all aspects of fleet management.

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